

Application Serial No. 09/748,908  
Amendment dated November 10, 2003  
Reply to Office Action dated July 16, 2003

**REMARKS**

Claims 5-7 are pending. No claims have been allowed.

Responsive to the Examiner's objection to the specification as not conforming to 37 C.F.R. 1.125(b) because no clean copy has been submitted, Applicants submit herewith a clean copy of the Substitute Specification. A marked-up copy of the Substitute Specification showing the amendments made thereto, was submitted with Applicants' prior Amendment filed on June 12, 2003.

The Examiner rejected Claims 5-7 as being obvious over U.S. Patent No. 4,865,919 to Frank et al. in view of U.S. Patent No. 3,453,097 to Hafner.

Frank et al. '919 discloses a method of fabricating a shaped glass piece, as set forth schematically in Fig. 1. First, a glass sheet is cut to provide a glass piece. Next, the cut glass piece is shaped with heating between male and female molds. (col. 4, lines 54-59). The glass piece is then controllably cooled to anneal the shaped glass piece. Next, the glass piece is cut into segments by a suitable method, such as by a laser cutting process or an abrasive jet cutting process. (col. 3, lines 4-11). Finally, the cut edges are seamed in a conventional manner in order to reduce injury, followed by tempering the segments. (col. 3, lines 23-32).

Hafner '097 teaches a method of working glass with a laser beam in which a laser beam is swept continuously along a glass sheet in order to heat the glass sheet such that cutting of the glass sheet is effected. After being cut by the laser beam, the glass is allowed to cool, "whereupon a break is effected along the line swept by the pointshaped cutting rays with clean edges and without danger of spurious fracture." (col. 2, lines 41-48). "In some cases, it may be desirable to provide a light tap or a small degree of bending to separate the two sections". (col. 2, lines 59-61; *see also* col. 3, lines 22-25: ". . . the glass is separated by tapping or bending"). In particular, Hafner '097 states that "[i]t is, therefore, an important characteristic of this invention that the laser beam is required to generate a temperature gradient, upon cooling of the laser path, such that tapping of the glass sheet or slight bending thereof will result in substantially unhindered separation of the pieces." (col. 3, lines 3-8).

Amended independent Claim 5 calls for a process for the production of bent glass and pre-stressed glass, including the steps of providing a crude glass plate; obtaining a cut glass plate of a desired dimension by performing only a laser cutting through a portion of the thickness of the crude glass plate along a cut line with ensuing breaking of the crude glass

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plate along the cut line; and subjecting the cut glass plate of the desired dimension to one of a bending and a pre-stressing operation.

Applicants respectfully submit that amended independent Claim 5 is not obvious over Frank et al. '919 in view of Hafner '097 because each of the foregoing references, either alone or in combination, fails to disclose a glass production process including the step of obtaining a cut glass plate of a desired dimension by performing only a laser cutting through a portion of the thickness of a crude glass plate along a cut line with ensuing breaking of the crude glass plate along the cut line.

As noted by the Examiner, Frank et al. '919 does not teach laser cutting and breaking of glass, *per se*. In the cutting process disclosed in Hafner '097, after a piece of glass is swept by a laser beam along a cut line, cooling of the glass is required before a break may be effected along the cut line. Further, it appears that the break is effected by tapping or bending the glass piece. (*see* Hafner '097 at col. 2, lines 59-61; col. 3, lines 3-8 and 22-25). In fact, Hafner '097 states that the generation of a temperature gradient upon cooling of the laser path is "an important characteristic" of his invention for substantially unhindered separation of the pieces by tapping or slight bending. (*see* Hafner '097 at col. 3, lines 3-8).

By contrast, amended independent Claim 5 calls for obtaining a cut glass plate of a desired dimension by performing *only* a laser cutting through a portion of the thickness of a crude glass plate along a cut line with ensuing breaking of the crude glass plate along the cut line. The term "ensuing" means "to happen or come afterwards or as a result". New Lexicon Webster's Dictionary of the English Language (1989 Ed.). Thus, in the present method, the breaking of the crude glass plate along the cut line occurs as a result of the laser cutting and substantially immediately after the laser cutting without the need for additional steps, such as tapping or bending of the glass sheet as in Hafner '097. Support for the present amendment to independent Claim 5 may be found in original Claim 2 of the present application, which calls for "perform[ing] only a laser-scratching . . . and an ensuing breaking-through", indicating that a cut glass piece is obtained by performing only a laser scoring with breaking substantially immediately thereafter. Therefore, Applicants respectfully submit that amended independent Claim 5 is not obvious over Frank et al. '919 in view of Hafner '097.

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Additionally, because Claims 6 and 7 depend from independent Claim 5, Applicants respectfully submit that Claims 6 and 7 are also not obvious over Frank et al. '919 in view of Hafner '097.

It is believed that the above represents a complete response to the Official Action and reconsideration is requested. Specifically, Applicants respectfully submit that the application is in condition for allowance and respectfully request allowance thereof.

In the event Applicants have overlooked the need for an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby petition therefore and authorize that any charges be made to Deposit Account No. 02-0385, Baker & Daniels.

Should the Examiner have any further questions regarding any of the foregoing, he is respectfully invited to telephone the undersigned at (260) 424-8000.

Respectfully submitted,



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CERTIFICATION OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on: November 10, 2003

ADAM F. COX, REG. NO. 46,644

Name of Registered Representative

  
Signature

November 10, 2003

Date